

a lower wiring layer arranged on the substrate and having an opening, a conductive portion filling the opening, and at least one dielectric member embedded in the conductive portion;

an interlayer dielectric film arranged on the lower wiring layer and having a contact wiring;

and

an upper wiring layer arranged on the interlayer dielectric film and having an upper opening, an upper conductive portion filling the upper opening, and at least one dielectric member embedded in the upper conductive portion, wherein the upper wiring layer and the lower wiring layer are electrically connected by the contact wiring.

6. (AMENDED) A semiconductor device having a multilayer wiring structure, comprising:

a semiconductor substrate;

a lower wiring layer arranged on the substrate and including an upper surface, a lower surface, an opening, at least one dielectric member arranged in the opening, and a conductive portion filling the opening so as to surround the at least one dielectric member;

an interlayer dielectric film arranged on the lower wiring layer and having a contact wiring;

and

an upper wiring layer arranged on the interlayer dielectric film and having an upper opening, at least one dielectric member arranged in the upper opening, and a conductive portion filling the upper opening so as to surround the at least one dielectric member, wherein the upper wiring layer and the lower wiring layer are electrically connected by the contact wiring.

ADD new claims 12 - 14 to read as follows:

12. (NEW) A semiconductor device comprising:

a semiconductor substrate;

a lower wiring layer arranged on the semiconductor substrate and having a lower conductive portion, wherein the lower conductive portion includes a lower through hole, a conductive metal filling the lower through hole, and at least one dielectric member enclosed by the conductive metal;

an interlayer dielectric film arranged on the lower wiring layer and having a contact wiring;

and

an upper wiring layer arranged on the interlayer dielectric film having an upper conductive portion, wherein the upper conductive portion includes an upper through hole, a conductive metal filling the upper through hole, and at least one dielectric member enclosed by the conductive metal, and wherein the upper conductive portion is electrically connected to the lower conductive portion via the contact wiring of the interlayer dielectric film.

13. (NEW) The semiconductor device according to claim 12, wherein the lower conductive portion and the upper conductive portion are arranged vertically.

14. (NEW) The semiconductor device according to claim 13, wherein the contact wiring of the interlayer dielectric film includes a through hole, a conductive metal filling the through hole, and at least one dielectric member enclosed by the conductive metal.